Abstract of the Disclosure

An optical disk reader or read/write system for CD or DVD formats. First and second laser diodes operating at different wavelengths have their output beams collimated and directed at a single element objective lens, and are then reflected off the disk back through the lens to a photodetector. The single element objective lens has a central aperture zone and an outer aperture zone, the central zone being profiled to operate at a first numerical aperture at approximately 0.45 and the output beam of the first laser diode is confined to the central aperture zone. The outer aperture zone together with the central aperture zone are profiled to operate at a second numerical aperture, for example 0.60 wherein the output beam of the second laser diode has ray fans extending across the full aperture of the single element objective lens. A diffractive is formed on one surface of the single element objective lens and provides sufficient aspheric surface power for spherical aberration correction as well as correction for spherochromatism. The diffractive also provides sufficient correction for spherical aberration and spherochromatism that the single element objective lens achieves diffraction-limited image quality for both CD and DVD formats.